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Magnetism: *(The ancient use of)*

Although there are only a few artefacts to prove the case, the following few examples suggest that the properties of magnetism were understood by our ancestors.

The rock on the right is one of several which are now realised to have been carved around naturally magnetic stone in both the navels and temples of stone carved figures of people and animals.

It is completely unknown how such properties were recognised at such an early time in Meso-American Guatemala but there is no doubt that that they were, making these magnetised statues one of the first conclusive evidences of an understanding of the properties of magnetism by prehistoric people.

Chronology of Magnetism in History:

The Chinese Application of Magnetism:

2,637 BC - "This date has been conclusively shown to be the earliest one at which history notes anything resembling the application of the magnetic influence. It is related that, during this sixty-first year of the reign of Hoang-ti (Yeou-hioung-che, also named Koung-fen and Hiuen-yuen), the emperors troops, who were pursuing the rebelious prince Tcheyeou (Tchi-yeou), lost their way, as well as the course of the wind, and likewise the sight of their enemy, during the heavy fogs prevailing in the plains of Tchou-lou. Seeing which, Hoang-ti constructed a chariot upon which stood erect a prominent female figure which indicated the four cardinal points, and which always turned to the south whatever might be the direction of the chariot. Thus he succeeded in capturing the rebellious prince, who was put to death.

Some say that upon this chariot stood a needle, to denote the four parts of the world. That, states the French author writing in 1736, would "indicate the use of a compass, or something very similar to it ... and it is unfortunate that the device has not been explained more fully." (3)

1,110 BC - Tcheou Koung is said to have at this date taught the use of the needle and compass to the envoys from Youa-tchang. "As the ambassadors sent from Cochin China and Tonquin" (Humbolt, "Cosmos," Vol. V. p. 51) "were about to take their departure2 (which was in the twenty-second cycle, more than 1040 years BC), "Tcheou-Koung gave them an instrument which upon one side always turned towards the north and on the opposite side to the south, the better to direct them upon their homeward voyage. This instrument was called *tchi-nan* (chariot of the south), and it is still the name given to the compass, which leads to the belief that Tcheou-Koung invented the latter." In his chapter on "the magnetic needle," Humboldt says the apparatus was called *fse-nan* (indicator of the south). (3)

(More about Ancient China)

The Olmec Application of Magnetism:

2,000 B.C. - One of the several so called '*Fat-Boy*'s' from Guatemala. This one (below) is 6ft high and was found to have magnetised stone at both the temple and navel. The 'Monte Alto' culture in Guatemala are often termed as 'Pre-Olmec', and there are suggestions that the culture may have its roots in the 'Monte Alto' region.

Many of the Monte Alto sculptures are magnetic as well. In as much as certain distinctive patterns of magnetism recur with some frequency, it would appear that the sculptures were executed by artisans who were aware of these properties. If this is true, the Monte Alto sculptures no doubt deserve recognition as the oldest known magnetic artefacts in the world.

Of the collection of "fat boy" sculptures from Monte Alto on display in the town park of La Democracia, Guatemala and in front of its local museum, four of the heads and three of the bodies were found to have magnetic properties. All four of the heads have a north magnetic pole located in their right temples, while three of them have south magnetic poles below the right ear and the fourth (that in front of the museum) has a south magnetic pole in its left temple, Such a pattern of occurrence is unlikely to be a matter of chance, even in a sample size as small as four.

(The La Venta Stone Heads)

The "Fat Boys" assembled in La Democracia and the turtle-head found at Izapa do not exhaust the examples of magnetic sculptures found in Soconusco, however. Among the assortment of stone carvings brought together in the open-air "museum" at the El Baï¿½l sugar plantation in Guatemala are not only the third-oldest known Long Count inscription but also at least two statues possessing magnetic properties.

One of these (discovered in 1979) depicts two men sitting cross-legged on a bench with their arms crossed on their chests. Both men have north magnetic poles where their arms cross, while under the bench upon which they sit are two south magnetic poles - the pole below the man on the left, as one faces them, being more pronounced than that beneath the man on the right. Nearby, a well-fashioned likeness of a rampant jaguar was found to have north magnetic poles in both of its paws, but no discernible south poles. Finally, a small humanoid sculpture situated in the plaza of the village of Tuxtla Chica near Izapa was found in 1983 to be magnetic in the right side of its head. (6)

(More about Pre-Columbian Guatemala)

Izapa ruins, Chiapas State, Mexico (Mayan Sculpture)

The stone (left) is magnetically polarised with the exact centre of the nose attracting a compass needle, the mid section repelling the needle and the end section away from the nose, attracting the south end of a compass needle.

Although we have no idea how such properties were recognised in the first place, there is little doubt that they were. It has been loosely suggested that this figure might have some association with the homing instincts of turtles. (6)

Malmstrom speculates the magnetism may have been the magical power by which sea turtles found their way across great expanses of ocean. (He also suggests that the magnetic turtle may hint at Olmec contacts with the Chinese, since they also made their early compasses in the shape of turtles.)

(More about Ancient China)

1,000 B.C. - It has been established that this fragment (34 x 9 x 4mm), was part of a larger bar. It has been polished on each face, and has a groove running 'approximately *and possibly intentionally* parallel to the edges' along one of the flattened-faces. If its function was to serve as a directional finder (as is commonly supposed), the longer its original

length, the more accurate the reading would have been. Under experiment, it repeatedly provided a consistent bearing (to within 1/2ï¿½), using a 'stadia-rod' at 30m.

This naturally magnetic square metal fragment (M-160) points 35.5ï¿½ West of magnetic North (when made to float). It was found in an Olmec mound in Vera Cruz, Mexico.

All of the roughly dozen magnetic sculptures which are known from Mesoamerica. are found within the volcanic bedrock zone of piedmont Soconusco. Several other areas of volcanic bedrock exist in Mesoamerica, such as in the Tuxtla Mountains and along the Transverse Volcanic Axis which runs across the center of Mexico from Citlaltï¿½petl (Orizaba) in the east to Volcï¿½n Colima in the west; however, in none of them did the local inhabitants recognize the presence of magnetic iron ore as they apparently did in Soconusco. Because magnetism appears always to have been associated with relatively massive stone carvings which could not be easily moved, the knowledge of this force seems never to have diffused beyond the region. (6)

In 1983, a small humanoid sculpture in the plaza of Tuxla Chica, Mexico was found to be magnetic in the right side of its head. (7)

(More about Ancient Mexico)

Greek Application of Magnetism:

Pliny relates that the Egyptians were aware of magnetism. He wrote that:

'*..the temple of Arsinoe was to have been vaulted with magnetic stone, in order to receive a hovering statue of Arsinoe made of iron, according to the arrangement of Ptolemaus Philadelphus, but who, as well as the architect, died before the completion of the temple..*' (3)

Cedrenus says that an ancient image in the Serapium at Alexandria was '*suspended by magnetic force*'. (3)

Cassiodorus stated that '*in the temple of Diana hung an iron Cupid without being held by any band*'. (3)

Socrates said of it in Plato's "Ion" c. 380 BC.

Speaking well about Homer is not a thing you have mastered, it's a divine power that moves you, as a "Magnetic" stone moves iron rings. (That's what Euripides called it; most people call it "Heraclian".) This stone not only pulls those rings, if they are iron, it also puts power in the rings, so they in turn can do just what the stone does - pull other rings - so that there is sometimes a very long chain of iron pieces, hanging from one another. And the power in all of them depends on this stone.

And Manetho wrote the following profound statement in relation to magnetism..

'*for like as iron drawn by a stone often follows it, but often also is turned and driven away in the opposite direction, so also is the wholesome, good and regular motion of the world.*' (3)

(More about Ancient Greece)

At around c. 500 BC in ancient India, the Indian surgeon, *Sushruta*, was the first to make use of the magnet for surgical purposes. (5)

(More about Ancient India)

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